

What is claimed is:

1. A media sensing method of a media dispenser comprising:
setting an initial reference range for width and thickness of a media;
5 comparing the initial reference range and a reference range of a currently
discharged media; and
variably setting a new initial reference range on the basis of the
comparison value.
- 10 2. The method of claim 1, wherein the initial reference range and the
reference range of the currently discharged media is an average value of the width
and thickness of media.
- 15 3. The method of claim 1, wherein the initial reference range and the
reference range of the currently discharged media is a predetermined range of a
voltage value set through a digital potentiometer for the width and thickness of the
media.
- 20 4. The method of claim 1, wherein when the media dispenser is
turned on/off, a reference range of the currently discharged media is stored
through EEPROM or the pre-set initial reference range is read.
- 25 5. The method of claim 1, wherein when the media dispenser is
turned on/off, the reference range of the currently discharged media is stored
through an application program of the media dispenser or the stored reference

range is outputted.

6. The method of claim 1, wherein the width of the media is measured through a feed sensor installed at a convey path on which media is discharged from a cassette storing the media in response to a media supply command, and the thickness of the media is measured through an RVDT (Rotary Variable Differential Transducer) sensor.

7. The method of claim 1, wherein the media is bills of each country or multi-media having a predetermined thickness.

8. The method of claim 7, wherein the initial reference range setting step comprises:

setting a discharge mode for multi-media having a predetermined thickness; and

initializing the thickness of multi-media by shifting the initial reference range of the RVDT sensor measuring the thickness of the multi-media as much as a predetermined value.

9. The method of claim 9, wherein the step of comparing the reference range comprises:

detecting a voltage according to the thickness of the currently discharged multi-media in discharging the multi-media; and

comparing the voltage value according to the thickness of the initial reference range and the voltage value according to the thickness of the currently

discharged multi-media.

10. The method of claim 9 further comprises:

determining whether multi-media have overlapped by comparing the voltage values; and

5 rejecting the discharged multi-media if the multi-media have overlapped, and outputting the discharged multi-media if the multi-media have not been overlapped.

11. The method of claim 7, wherein the media discharge mode and
10 the multi-media discharge mode are discriminated through a dip switch, in order to output the media or the multi-media.

12. The method of claim 7, wherein a media discharge command and multi-media discharge command are respectively generated to output the media or
15 the multi-media.

13. The method of claim 7, wherein a cassette for supplying a bill in case that media is the bill and a cassette for supplying a multi-media when the media is the multi-media are respectively provided in order to individually
20 discharge the bill and the multi-media.

14. The method of claim 7, wherein, in supplying the multi-media, the case that the media is a bill and the case that the media is the multi-media are determined, and the bill and the multi-media are supplied through one cassette.

15. The method of claim 1 further comprising:

discriminating the skew, the width, the thickness of the media and a distance between successively discharged media through a feed sensor and a RVDT (Rotary Variable Differential Transducer) sensor installed at the convey path
5 on which media is moved after being discharged from the cassette in response to a cash withdrawal request.

16. The method of claim further comprises:

checking whether the feed sensor and the RVDT (Rotary Variable
10 Differential Transducer) sensor are normal in response to a cash withdrawal request of a user;

discharging media by virtue of a driving force transmitted to the convey roller connected to the cassette; and

retrieving media when media in an abnormal state is sensed in the
15 discriminating step of each media.

17. The method of claim 16, wherein the driving force is generated by the operation of a DC motor, and preferably, by a BLDC (Brushless DC) motor.

20 18. The method of claim 16 further comprises:
sensing and counting the retrieved media.

19. The method of claim 15, wherein, as for the discrimination of skew of media, skew of media is determined by a sequential order of the RVDT sensor
25 and the feed sensor.

20. The method of claim 15, wherein, as for the discrimination of the length of media, the length of media is determined by measuring ON/OFF time of the feed sensor while the media is moved along the convey path and ON/OFF time of the feed sensor in a pre-set normal state.

21. The method of claim 15, wherein, as for the discrimination of the thickness of media, when media is conveyed between the RVDT sensor, a sensing unit of the RVDT sensor is lifted up as long as the thickness of the media, according to which the thickness of media is determined by a difference value between the value of the sense signal of the RVDT sensor and the pre-set sense signal value.

22. The method of claim 15, wherein, as for the discrimination of a distance between media, the distance between media is determined by comparing ON/OFF time of the feed sensor of the first media and ON time of the feed sensor of the next media.

23. The method of claim 15, wherein the feed sensor is an optical sensor for measuring ON/OFF time of media, and comprises:

a light emitting unit for radiating light; and
a light receiving unit disposed at an interval from the light emitting unit and sensing light radiated from the light emitting unit.

24. The method of claim 23, wherein when media is not sensed, the

light receiving unit of the feed sensor outputs 5V, and when light radiated from the light emitting unit is interrupted by media when the media discharged from the media-storing cassette is passing through the convey path where the feed sensor is installed, the light receiving unit outputs 0V.

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25. A media sensing method of a media dispenser comprising:

setting a multi-media discharge mode;

setting an initial reference range by shifting a reference value of an RVDT (Rotary Variable Differential Transducer) sensor as much as a predetermined value;

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receiving a multi-media and detecting a voltage according to the thickness of the multi-media;

comparing a voltage value according to the thickness of the initial reference range and a voltage value according to the thickness of the currently discharged multi-media; and

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rejecting the currently discharged multi-media if the detected voltage value of the currently discharged multi-media is greater than the initial reference range voltage value, and discharging the multi-media if the detected voltage value of the currently discharged multi-media is smaller than or the same as the initial reference range voltage value.

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26. The method of claim 25 further comprising:

generating a media discharge command signal and a multi-media discharge command signal, and setting an each-country bill discharge mode and a multi-media discharge mode;

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compensating as much as a certain shifted value in initializing a voltage according to the thickness of the multi-media, and precisely measuring the actual thickness of the multi-media.

27. The method of claim 25, wherein the multi-media discharge mode
5 setting step comprises:

setting the each-country bill discharge mode and the multi-media discharge mode by using a dip switch.

28. A media sensing method of a media dispenser comprising:
10 setting an initial reference range for width and thickness of a media;
obtaining an average value of thickness and width of bills accumulatively stored by discharging sample media and setting a reference range;
comparing the reference range for the thickness and width of the sample media and the initial reference range, and variably setting the initial reference
15 range; and
respectively comparing the variably-set reference range and a reference range of a currently discharged media according to a media withdrawal request, and determining whether the media is normal or not.

20 29. The method of claim 28 further comprising:
initializing the RVDT (Rotary Variable Differential Transducer) sensor and the feed sensor upon receiving system power by a user; and
normally discharging media to an external discharge box or retrieving media to an internal retrieval box depending the discrimination result about
25 whether the media is normal or abnormal.

30. The method of claim 28, wherein the thickness of media is detected by the RVDT (Rotary Variable Differential Transducer) sensor and the width of media is detected by the feed sensor

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